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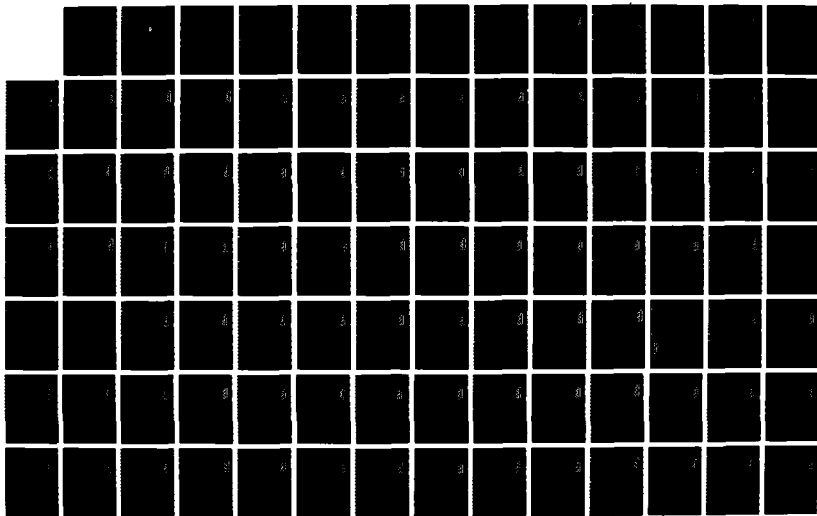
INDEPENDENT REVIEW/REASSESSMENT OF ANOMALOUS DATA
VOLUME 2(U) LFM MANAGEMENT ASSOCIATES INC ALEXANDRIA VA
C B MACDONALD ET AL. 22 JUN 87 MDA903-86-C-0396

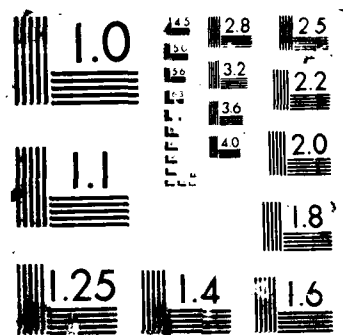
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INDEPENDENT REVIEW/REASSESSMENT
OF

ANOMALOUS DATA

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VOLUME II

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U.S. ARMY CONCEPTS ANALYSIS AGENCY
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Prepared by
LFW MANAGEMENT ASSOCIATES, INC.
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June 22, 1987

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19. ABSTRACT (Continue on reverse if necessary and identify by block number) An independent review/reassessment of 61 battles in 8 campaigns of World War II and the Arab-Israeli Wars of 1967 and 1973 was conducted. This work will provide the U.S. Army's Concepts Analysis Agency (CAA) with a factual basis for determining the extent to which certain anomalies in the data contained in CAA Study Report CAA-SR-84-6, "Analysis of Factors That Have Influenced Outcomes of Battles and Wars" are attributable to actual changes in combat dynamics, or whether they are more likely due to flaws in the data base. In virtually every case, the LFW Team's findings differ substantially from those determined by the authors of CAA-SR-84-6. <i>ad. 87-06-01, 87-06-02, 87-06-03, 87-06-04, 87-06-05, 87-06-06, 87-06-07, 87-06-08, 87-06-09, 87-06-10, 87-06-11, 87-06-12, 87-06-13, 87-06-14, 87-06-15, 87-06-16, 87-06-17, 87-06-18, 87-06-19, 87-06-20, 87-06-21, 87-06-22, 87-06-23, 87-06-24, 87-06-25, 87-06-26, 87-06-27, 87-06-28, 87-06-29, 87-06-30, 87-06-31, 87-06-32, 87-06-33, 87-06-34, 87-06-35, 87-06-36, 87-06-37, 87-06-38, 87-06-39, 87-06-40, 87-06-41, 87-06-42, 87-06-43, 87-06-44, 87-06-45, 87-06-46, 87-06-47, 87-06-48, 87-06-49, 87-06-50, 87-06-51, 87-06-52, 87-06-53, 87-06-54, 87-06-55, 87-06-56, 87-06-57, 87-06-58, 87-06-59, 87-06-60, 87-06-61, 87-06-62, 87-06-63, 87-06-64, 87-06-65, 87-06-66, 87-06-67, 87-06-68, 87-06-69, 87-06-70, 87-06-71, 87-06-72, 87-06-73, 87-06-74, 87-06-75, 87-06-76, 87-06-77, 87-06-78, 87-06-79, 87-06-80, 87-06-81, 87-06-82, 87-06-83, 87-06-84, 87-06-85, 87-06-86, 87-06-87, 87-06-88, 87-06-89, 87-06-90, 87-06-91, 87-06-92, 87-06-93, 87-06-94, 87-06-95, 87-06-96, 87-06-97, 87-06-98, 87-06-99, 87-06-100</i>					
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TABLE OF CONTENTS

VOLUME I:

Introduction	I-1
The Okinawa Campaign	I-11
Appendix A -- The LFW Team	I-75
Appendix B -- Glossary	I-77
Appendix C -- XXIX Corps Daily Strengths and Casualties	I-83
Appendix D -- Japanese Strengths and Daily Casualties	I-87

VOLUME II:	The Salerno Campaign	II-1
	The Volturno River Campaign	II-50

VOLUME III:	The Anzio Campaign	III-1
	The Rome Campaign	III-35

VOLUME IV:	The Arab-Israeli Wars ...	IV-1
	Northwest Europe	IV-50
	The Eastern Front	IV-97



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INTRODUCTION AND BIBLIOGRAPHY: SALERNO

As per contract, the LFW Team reviewed/reassessed the following battles:

Amphitheater, 9-11 September 1943
Port of Salerno, 9-11 September 1943
Sele-Calore, 11 September 1943
Battipaglia I, 12-15 September 1943
Vietri I, 12-15 September 1943
Battipaglia II, 17-18 September 1943
Eboli, 17-18 September 1943

For statistics on these battles, the LFW Team relied primarily on official U.S. Army records [in particular Fifth Army Periodic Reports], microfilms of official German records, operations reports of the three British divisions, and a secondary source that is strong in statistical information, Graham and Bidwell, Tug of War. For U.S. and British units, the tracking process began with loading tables for the invasion that showed the strength of the division and attached units. The strength figure for the next battle reflects the initial strength minus casualties incurred in the prior battle plus any personnel additions, and in the case of the British 56th Infantry Division, the same process for a third battle.

The primary source for "bloody" casualties were the Fifth Army Periodic Reports and for the "non-bloody" casualties, Lada or Mellor, as explained in the general introduction and on the appropriate charts.

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Official Records

Fifth Army: After-Action Report, Periodic Reports, Operations Orders, G-1 and G-3 Journals; and Headquarters, Fifth Army, Historical Section, Fifth Army History [9 vols, n.p., n.d.].

45th Infantry Division: After-Action Report, Artillery After-Action Report, Division Artillery Journal, Artillery Daily Situation Reports, Division Daily Situation Reports, G-1 and G-3 Journals and files; After-Action Reports,

Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 157th Infantry, 179th Infantry, and 180th Infantry.

British Records

46th Infantry Division, Operations Report, Public Records Office, London.

56th Infantry Division, Operations Report, Public Records Office, London.

7th Armoured Division, Operations Report, Public Records Office, London.

German Records

Kriegstagebuch des Oberkommandos der Wehrmacht [OKW] [War Diary of the Armed Forces Supreme Command], 8 vols, vol. 6 [Munich: Bernard and Graefe, Licensed Study Reprint 1982].

AOK 10, KTB [Tenth Army War Diary], No. 1, 22 Aug-20 Sep 1943; No. 2, 21 Sep-31 Oct 1943, and Anlagen [Appendices] Aug-Oct 1943; and AOK 10, Anlagen, Chefsachen [highest level of command papers], 20 Aug-20 Sep 1943. [Captured German Records Microfilm Collection T-312, Microfilm Rolls 85 and 86].

Manuscripts: No. R-76, "Italian Theater, Order of Battle and List of Commanders, 22 Aug 1943-31 Mar 1944," by Ralph S. Mavrogordata, Nov 1955; No. R-88, "The Battle of Salerno," by Ralph S. Mavrogordata, 1957; and MS without number, "The German Situation [in the Italian Theater of Operations]," by Britt Bailey, 1951.

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Most useful:

Blumenson, Martin, Salerno to Cassino [U.S. Army in World War II, Washington: Center of Military History, 1969].

Graham, Dominick, and Bidwell, Shelford, Tug of War: The Battle for Italy: 1943-45 [New York: St. Martin's Press, 1986].

Molony, Brig. C.J.C., et. al., The Mediterranean and the Middle East, Vol. V, The Campaign in Sicily, 1943, and the Campaign in Italy, 3d September 1943 to 31st March 1944 [United Kingdom Military Series, History of the Second World War, London: Her Majesty's Stationery Office, 1973].

Of limited usefulness:

Jackson, W.G.F., The Battle for Italy [New York: Harper and Row, 1967].

Starr, LTC Chester G., Salerno to the Alps [Washington: Infantry Journal Press, 1948].

Of peripheral usefulness:

The Fighting Forty-Fifth: The Combat Report of an Infantry Division [Baton Rouge, LA: Army and Navy Publishing Co., 1946].

US ARMY

LFW MANAGEMENT ASSOCIATES, INC. REVIEW

of

CAA TASK 2 REQUIREMENTS

LFW'S INDEPENDENT REVIEW/REASSESSMENT OF SEVEN ANOMALOUS BATTLES

FROM THE SALERNO CAMPAIGN



II-4

AMPHITHEATER

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A D	9 - 11 Sep 43	Salerno	Br 56th Inf Div Ger 16th Pz Div E	MG Graham MG Sickenius	3	13.0

LFM

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A D	9 - 11 Sep 43	Salerno	Br 56th Inf Div + KG Stempel	MG Graham MG Sickenius	3	13.0

The elements of the 16th Panzer Division fought as Kampfgruppe (task Force) Stempel.



US ARMY

BRITISH STRENGTH: AMPHITHEATER

Low

56th Infantry Division estimated strength 20,354

High

56th Infantry Division estimated strength (+) 22,496

Nominal

LFW Team estimate	21,425*
Replacements during battle	0**
RTD (as of 2 May)	0***
Attachments/detachments during battle	0****
Total	21,425

BASIC SOURCES: *56th Inf Div Troop Loading Table in Operations Report, 56th Inf Div; **The British Army did not operate a replacement system for individuals; when a battalion-size unit was no longer combat effective, it was replaced by another battalion from the same regiment; Graham and Bidwell, Tug of War. **Average loss of duty time for 35 percent of the approximate 55 percent of casualties eventually returned to duty; any personnel RTD as of 2 May therefore would be insignificant; Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics in World War II. ***Fifth Army Operations Orders, Periodic Reports and G-3 Journal.



US ARMY

BRITISH CASUALTIES: AMPHITHEATER

"Bloody"		
Estimated casualties	Low	687
Estimated casualties	High	839
Estimated casualties	Nominal	763*
"Non-Bloody"		
Estimated casualties	Low	151
Estimated casualties	High	185
Estimated casualties	Nominal	168**

BASIC SOURCES: *Fifth Army Periodic Reports; **Mellor, Casualties and Medical Statistics.



US ARMY

GERMAN STRENGTH: AMPHITHEATER

Low

64th Panzer Gr Regt of 16th Panzer Div at estimated
organizational strength with normal attachments 4,432

High

Estimate ¹ 5,600

Nominal

Estimate [high minus 368 or 6.5%]	5,232
Replacements received during battle	0
Attachments/detachments during battle	0
Total	5,232

¹ 64th Panzer Grenadier Regiment [minus one company]:
estimated strength 2,172 plus 3d Assault Gun Battalion
[minus one company] at estimated strength of 600 plus two
self-propelled AAA batteries at estimated strength of 280
plus one FA battery at estimated strength of 183 plus an
Engineer detachment at estimated strength of 100 plus GS FA
at estimated strength of 2,265.

BASIC SOURCE: Tenth Army War Diary.



GERMAN CASUALTIES: AMPHITHEATER

"Bloody"	
Low	
Estimated casualties	192
High	
Estimate based on pro-rated casualties for entire Salerno campaign	937*
Nominal	
LFW Team estimate	213**
"Non-Bloody"	
Low	
Estimated casualties	37
High	
Estimated casualties	45
Nominal	
LFW Team estimate from experience of British forces	41***

BASIC SOURCES: *Graham and Bidwell, Tug of War, total figure prorated on a daily basis and then multiplied by the three days of this battle; **Tenth Army War Diary; ***British September 1943 daily NBC rate per thousand troops was 2.6123333. This figure multiplied by 5.232 thousands nominal German start of battle strength and three battle days provides 41 NBC. Mellor, Casualties and Medical Statistics.



AMPHITHEATER

IIERO

A/D	Strength				Arty Pcs	AIR Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty S/D			Pers	S/D	Armor	Arty S/D	Arty A/C	S/D
		T	MBT									
A	12,917	0	0	138	0	1,154	3.0	0	---	?	---	
D	4,250	128	0	56	8	100	0.8	?	---	?	---	

LFV

A/D	Strength				Air Sorties	Battle Casualties								
	Pers (Total)	Armor		Arty Pcs		Casualties								
		T	Lt.			MBT	Pers	S/D	Armor	S/D	Arty	S/D	A/C	S/D
A	21,425	62	0	62	146	?	763	1.2	0	—	5	1.1	?	—
D	5,232	36	36	0	40	?	213	1.4	5	4.6	10	8.3	?	—

CMAA
CONCEPT ANALYSIS AGENCY

AMPHITHEATER

HERO

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Init- iative	Vlc- tor	Adv	Mls
A		C		C	N	C	N	C	x	x	1.3	5
D	x		x									4

LFW

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Init- iative	Vlc- tor	Adv	Mls
A		C		C	N	C	N	C	x	x	2.5	5
D	x		x									4

The British advance covered 2.5 kilometers instead of 1.3.



PORT OF SALERNO

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	9 - 11 Sep 43	Salerno	Br 46th Inf Div Ger 16th Pz Div E	MG Hawkesworth MG Sickenius	3	6.0

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	9 - 11 Sep 43	Salerno	Br 46th Inf Div + KG's von Holtey & Dornemann	MG Hawkesworth MG Sickenius	3	6.0

The LFW Team provides more definitive identification of German forces.



BRITISH STRENGTH: PORT OF SALERNO

BRITISH STRENGTH: PORT OF SALERNO

	Low	
Estimate		18,090
	High	
Estimate		22,110
	Nominal	
LFW Team estimate		20,100*
Replacements during battle		0
RTD		0
Attachments/detachments during battle		0
		<hr/>
	Total	20,100

BASIC SOURCE: *46th British Infantry Division loading table strength minus approximately 6 percent to allow for Fifth Army weighting of 56th Division's attack with additional attached units.

BRITISH CASUALTIES: PORT OF SALERNO

"Bloody"	
Low	
Estimated casualties	634
High	
Estimated casualties	774
Nominal	
LFW Team estimate	704 ¹
"Non-Bloody"	
Low	
Estimated casualties	142
High	
Estimated casualties	174
Nominal	
LFW Team estimate	158 ²

BASIC SOURCES:

- 1 Fifth Army Periodic Reports;
- 2 Mellor, Casualties and Medical Statistics.



US ARMY

GERMAN STRENGTH: PORT OF SALERNO

Low

2d Panzer Regiment at estimated organizational strength ... 3,500

High

Original German source document units at estimated strengths 7,340¹

Nominal

LFW Team's estimate	6,606 ²
Replacements received during battle	0
RTD	0
Attachments/detachments during battle	0

¹ Total
2d Panzer Regiment [minus two companies and one battalion]: 6,606

2,500 plus 16th Recon [800], one assault gun company [200], Engineers [200], Transport [800], AAC artillery [280], attached FA [360], and GS artillery [2,200].

² Strengths shown in footnote minus ten percent.

BASIC SOURCES: Tenth Army War Diary and appendices.



US ARMY

GERMAN CASUALTIES: PORT OF SALERNO

"Bloody"	
Low	
Estimated casualties	382
High	
Estimate based on pro-rated casualties for entire Salerno campaign	779
Nominal	
LFW Team estimate	424*
"Non-Bloody"	
Low	
Estimated casualties	45
High	
Estimated casualties	55
Nominal	
LFW Team estimate from experience of British forces	50**

BASIC SOURCES: *Tenth Army War Diary and appendices; British September 1943 daily NBC rate per thousand troops was 2.6223333. This figure multiplied by 6.354 thousands nominal start of battle strength and 3 battle days provides 50 NBC. **Mellor, Casualties and Medical Statistics.



II-16

PORT OF SALERNO

HERO

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor			Arty Pcs		Pers %D	Armor %D	Arty %D	A/C %D		
		T	Lt.	MBT								
A	12,917	0	0	0	138	131	1,530	3.9	0	--	?	--
D	4,250	38	0	38	46	115	120	0.9	?	--	?	--

LFW

A/D	Strength					Air Sorties	Battle Casualties						
	Pers (Total)	Armor			Arty Pcs		Pers %D	Armor %D	Arty %D	A/C %D	D %		
		T	Lt.	MBT									
A	20,100	60	0	60	104	?	704	1.2	0	--	?	--	
D	6,606	89	12	77	40	?	424	2.1	9	3.4	8	6.7	--

II-17

SELE-CALORE

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	11 Sep 43	Salerno	US 45th Inf Div	MG Middleton	1	11.0
D			Ger 16th Pz Div E	MG Sickenlus		

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	11-12 Sep 43	Salerno	US 45th Inf Div -	MG Middleton	2	8.0
D			KG's von Holtey & Kleine Lineburg	MG Sickenlus		

The LFW Team provides more definitive identification of German forces. The LFW Team also considered that there was no real break in the battle until the end of 12 September; thus the battle covered not one day but two, as indicated. The LFW Team determined further that the width of the front was not 11 kilometers but 8.

BASIC SOURCES: Graham and Bidwell, Tug of War; Fifth Army Periodic Reports; 45th Infantry Division after-action report and daily situation reports.



U.S. STRENGTH: SELE-CALORE

Low

45th Infantry Div [minus 1 regt and 1 additional battalion]
strength based on organizational strength 13,089

High

45th Infantry Div [minus 1 regt and 1 additional battalion]
strength based on organizational strength 15,211

Nominal

LFW Team's estimate [mid-range between low and high] 14,150
Replacements received during battle 0
RTD 0
Attachments/detachments during battle 0
Total 14,150

BASIC SOURCES: Fifth Army Operations Orders and Periodic Reports;
Graham and Bidwell, Tug of War. No replacements or RTD found in
any source; unlikely in any case since this was the division's
first action in Italy.



US ARMY

U.S. CASUALTIES: SELE CALORE

"Bloody"		
Low		
Estimated casualties		171
High		
Estimated casualties		209
Nominal		
Estimated casualties		190
"Non-Bloody"		
Low		
Estimated casualties		58
High		
Estimated casualties		70
Nominal		
Estimated casualties		64*

BASIC SOURCES: Fifth Army Periodic Reports and 45th Infantry Division Daily Situation Reports and after-action report; *Lada, Medical Statistics in World War II.



US ARMY

GERMAN STRENGTH: SELE-CALORE

Low

Low estimated strengths of known KGs 3,500

High

One-half of 16th Panzer Division at estimated strength 8,390

Nominal

Original German source documents for units with estimated strengths	5,732
Replacements received during battle	0
RTD	0
Attachments/detachments during battle	0
Total	5,732

1 64th Panzer Grenadier Regiment [minus two battalions]:
 1,972 plus two SP AAA batteries [280], one attached FA
 battery [180], Engineer Det [100], KG Kline Lineberg [1,200]
 and GS FA [2,000].

BASIC SOURCES: Graham and Bidwell, Tug of War; Tenth Army War
 Diaries and appendices.



GERMAN CASUALTIES: SELE-CALORE

**"Bloody"
Low**

Pro-rated estimate based on entire campaign	171
---	-----

High

Estimated casualties	235
----------------------------	-----

Nominal

Estimated casualties based on original German sources ... 214

"Non-Bloody"

Estimated casualties	27
Low	

High

Estimated casualties 33

Nominal

Estimate based on experience of British forces	30
		1

BASIC SOURCES: Graham and Bidwell, Tug of War, total figure pro-rated on a daily basis and then multiplied by the two days of this battle; Tenth Army War Diary and appendices; Mellor, Casualties and Medical Statistics.

II-22



SELE-CALORE

HERO

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty			Pers %/D	Armor %/D	Arty %/D	%D A/C	%D	
		T	Lt. MBT	Pcs	Pcs							
A	12,447	106	17	89	84	18	251	2.0	1	0.9	?	--
D	8,390	78	0	78	90	7	60	0.7	?	--	?	--

LFW

A/D	Strength					Air Sorties	Battle Casualties						
	Pers (Total)	Armor			Arty Pcs		Pers %/D	Armor %/D	Arty %/D	%D A/C	%/D		
		T	Lt.	MBT									
A	14,150	72	20	52	84	?		?	4.9	?	--	--	
D	5,732	2	2	0	40	?		?	0.5	10	12.5	?	--



SELE-CALORE

HERO

	CE	Leader-ship	Training/Experience	Morale	Logis-tics	Momen-tum	Intelli-gence	Tech-nology	Initia-tive	Victor	Distance Advance (Km/Day)	Mission Accomp.
A		C		C	N	C	N	N	X	X	3.7	5
D	X		X							X		6

LFW

	CE	Leader-ship	Training/Experience	Morale	Logis-tics	Momen-tum	Intelli-gence	Tech-nology	Initia-tive	Victor	Distance Advance (Km/Day)	Mission Accomp.
A		C		C	N	C	N	N	X	X	3.7	6
D	X		X									5

The LFW Team determined that the U.S. forces were the victors because they accomplished their mission; German forces had orders to hold at all costs and thus failed to accomplish their mission. Mission accomplishment figures changed accordingly.



SELE-CALORE

HERO

Plan and Maneuver

Main Attack and Scheme of Defense						Secondary Attack		Success	Resolution
A/D									
A	F					-		X	P, S
D	D/O					-		X	

LFW

Plan and Maneuver

A/D	Main Attack and Scheme of Defense		Secondary Attack	Success		Resolution
A	F		F	X		P
D	D		-			

The LFW Team determined that the U.S. forces were the victors and thus gained success. The LFW Team determined that there was a secondary attack and it was frontal: both RCTs of the 45th Infantry Division were attacking, but the attack was weighted in favor of the three-battalion 179th RCT south of the Calore River while the two-battalion 157th RCT attacked north of the river.

BASIC SOURCE: Graham and Bidwell, Tug of War, pp. 72-75.



US ARMY

BATTIPAGLIA I

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	12-15 Sep 43	Salerno	Ger 16th Pz Div - +	MG Sickenius	4	16.0
D			Br 56th Inf Div +	MG Graham		

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	12-15 Sep 43	Salerno	Ger 16th Pz Div +	MG Sickenius	4	16.0
D			Br 56th Inf Div +	MG Graham		

The LFW Team deleted the minus from the 16th Panzer Division because the division devoted its principal effort to this battle and had been reinforced prior to the battle.



US ARMY

BRITISH STRENGTH: BATTIPAGLIA I

Low

56th Infantry Div plus strength [low Amphitheater minus
high estimated casualties] 19,330

High

56th Infantry Division plus strength [high Amphitheater
minus low estimated casualties]..... 21,658

Nominal

LFW Team's estimate [nominal Amphitheater strength minus nominal estimated casualties]	20,494
Replacements received during battle	0
RTD	41
Attachments/detachments during battle	- 3,300
Total	17,235

BASIC SOURCES: Graham and Bidwell, Tug of War; Fifth Army
Operations Orders and G-3 Journal. RTD figure is pro-rated
daily share [23 percent] of 35 percent of 55 percent of
Amphitheater casualties eventually returned to duty in 22 days
[Mellor, Casualties and Medical Statistics, and Lada, Medical
Statistics in World War II.]



US ARMY

BRITISH CASUALTIES: BATTIPAGIA I

"Bloody"	
Low	
Estimated casualties	810
High	
Estimated casualties	990
Nominal	
LFW Team's estimate	900*
"Non-Bloody"	
Low	
Estimated casualties	193
High	
Estimated casualties	235
Nominal	
LFW Team's estimate	214**

BASIC SOURCES: *Fifth Army Periodic Reports; ** Mellor, Casualties and Medical Statistics.



US ARMY

GERMAN STRENGTH: BATTIPAGLIA I

Low

Estimated strength 21,166

High

Estimated strength 25,870

Nominal

Estimated strength of German 16th Panzer Division plus
attached KGs 23,518
Replacements received during battle 0
Attachments/detachments during battle 0

Total 23,518

BASIC SOURCE: Tenth Army War Diary and appendices.



US ARMY

GERMAN CASUALTIES: BATTIPAGLIA I

"Bloody"	
Low	
Pro-rated estimate based on entire campaign	900 ¹
High	
Estimated casualties	2,193
Nominal	
LFW Team estimate based on original German sources	1,994 ²
"Non-Bloody"	
Low	
Estimated casualties	221
High	
Estimated casualties	271
Nominal	
Estimate based on experience of British forces	246 ³

BASIC SOURCES: ¹ Graham and Bidwell, Tug of War, total campaign figure divided by campaign days and multiplied by 3 days of this battle; ² Tenth Army War Diary and appendices; ³ Mellor, Casualties and Medical Statistics.



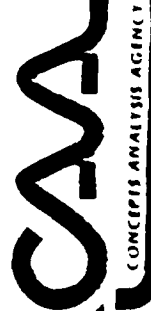
BATTIPAGLIA I

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor			Arty Pcs		Pers %/D	Armor %/D	Arty %/D	A/C %/D	
		T	Lt.	MBT							
A	14,730	89	0	89	108	112	1,112	1.9	?	--	--
D	11,230	30	0	30	146	539	1,639	3.6	?	--	--

LFW

A/D	Strength				Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty Pcs		Pers %/D	Armor %/D	Arty %/D	%/D A/C	%/D	
		T	Lt. MBT								
A	23,518	108	36	72	?	1,994	2.1	14	3.2	?	--
D	20,494	62	0	62	?	900	1.1	0	--	?	--



VIETRI I

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	12-15 Sep 43	Salerno	Ger Herman Goering Pz Div (+)	MG Schmaltz	4	14.5
D			Br 46th Inf Div +	MG Hawkesworth		

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	12-15 Sep 43	Salerno	Ger Herman Goering Pz Div (-)	Col Schmaltz	4	17.0
D			Br 46th Inf Div +	MG Hawkesworth		

The LFW Team determined that the width of the front was 17 kilometers rather than 14.5 and that the Herman Goering Panzer Division should be designated with a (-) rather than a (+); the division at its greatest strength during any portion of the Salerno Campaign used only 6 of 8 battalions (Graham and Bidwell, Tug of War).



US ARMY

BRITISH STRENGTH: VIETRI I

Low

46th Infantry Div plus strength [low estimated strength at Port of Salerno minus high casualty estimate]..... 17,142

High

46th Infantry Div plus strength [high estimated strength at Port of Salerno minus low casualty estimate] 21,334

Nominal

LFW Team's estimate [nominal estimated strength at Port of Salerno minus normal casualty estimate] 19,238
 Replacements received during battle 0
 RTD 38
 Attachments 4,280*
 Total 23,556

*167th Bde [3,300] and one U.S. TD battalion [700] attached September 13.

BASIC SOURCES: Graham and Bidwell, Tug of War; RTDs are projected daily share [23 percent] of 35 percent of 55 percent of Port of Salerno casualties eventually returned to duty within 22 days; attachments are 167th Bde at estimated strength of 3,300 and one U.S. TD battalion at estimated strength of 700 attached 13 September. [Fifth Army Operations Orders, Periodic Reports, and G-3 Journal.]



US ARMY

BRITISH CASUALTIES: VIETRI I

"Bloody"	
Low	
Estimated casualties	986
High	
Estimated casualties	1,205
Nominal	
LFW Team estimated casualties	1,095*
"Non-Bloody"	
Low	
Estimated casualties	181
High	
Estimated casualties	221
Nominal	
LFW Team estimated casualties	201**

BASIC SOURCES: *Graham and Bidwell, Tug of War, and Fifth Army Periodic Reports; ** Mellor, Casualties and Medical Statistics.

US ARMY

GERMAN STRENGTH: VIETRI I

Low

Estimated casualties..... 6,472

High

Estimated casualties 7,910

Nominal

Estimated strengths of German 16th Panzer Division plus
attached KGs..... 7,191
Replacements received during battle 0
Attachments/detachments during battle 0

Total 7,191

BASIC SOURCES: Tenth Army War Diary and appendices.



US ARMY

GERMAN CASUALTIES: VIETRI I

"Bloody"

Low

Pro-rated estimate of casualties for entire campaign

333

High

Estimated casualties

456*

Nominal

LFW Team estimate

394

"Non-Bloody"

Low

Estimated casualties

66

High

Estimated casualties

83

Nominal

Estimate based on experience of British forces

75**

BASIC SOURCES: *Graham and Bidwell, Tug of War, **Mellor, Casualties and Medical Statistics. [No casualties available from normal German sources.]



US ARMY

VIETRI I

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %D	Armor %D	Arty %D	A/C %D	%D
		T	Lt.	MBT	Pcs						
A	15,000	108	0	108	164	112	900	1.5	?	--	--
D	12,917	30	0	30	146	40	1,164	2.3	?	--	--

LFW

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty			Pers %	Armor %	Arty %	A/C %	D %	
		T	Lt.	MBT	Pcs							
A	7,191	20	0	20	12	394	1.4	?	8.8	?	--	--
D	19,238	114	63	51	156	1,095	1.4	?	--	?	--	--

CAS
CONCEPT ANALYSIS AGENCY

II-37

BATTIPAGLIA II

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	17-18 Sep 43	Salerno	Br 56th Inf Div + Ger 26th Pz Div E Ger 16th Pz Div E	MG Templar MG Luttwitz	2	12.0
D						

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	17-18 Sep 43	Salerno	Br 56th Inf Div + Ger 16th Pz Div +	MG Templar MG Sickenius	2	12.0
D						

German doctrine specified that reinforcing units be attached under the senior officer already on the field; thus arriving elements of the 26th Panzer Division were attached to the 16th Panzer Division under command of MG Sickenius.

US ARMY

BRITISH STRENGTH: BATTIPAGLIA.II

Low

56th Infantry Div plus strength [low Battipaglia I minus
high estimated casualties and detachments] 14,808

High

56th Infantry Div plus strength [high Battipaglia I minus
low estimated casualties and detachments] 17,548

Nominal

LFW Team's estimate [nominal Battipaglia I minus nominal casualties and detachments]	16,083
Replacements received during battle	250*
RTD	161**
Attachments [U.S. TD Bn] during battle	<u>700***</u>
Total	17,194

BASIC SOURCES: *Pro-rated share of approximately 500 British replacements who remained after a mutiny on the beaches: Graham and Bidwell, Tug of War, pp. 92-93. ** Pro-rated daily share [41 percent] of 35 percent of 55 percent of Amphitheater and Battipaglia I nominal casualties eventually RTD in 22 days, Mellor, Casualties and Medical Statistics. ***Fifth Army Operations Order.



US ARMY

BRITISH CASUALTIES: BATTIPAGLIA II

"Bloody"	
Low	
Estimated casualties	352
High	
Estimated casualties	430
Nominal	
LFW Team estimated casualties	391*
"Non-Bloody"	
Low	
Estimated casualties	77
High	
Estimated casualties	94
Nominal	
LFW Team estimated casualties	85**

BASIC SOURCES: *Fifth Army Periodic Reports; **Mellor, Casualties and Medical Statistics.



US ARMY

GERMAN STRENGTH: BATTIPAGLIA II

Low

Estimate 27,157

High

Estimate 33,191

Nominal

Estimated strengths of German 16th Panzer Division plus

attached KGs 30,174

Replacements received during battle 0

Attachments/detachments during battle 0

Total 30,174

BASIC SOURCES: Tenth Army War Diary and appendices.



US ARMY

GERMAN CASUALTIES: BATTIPAGLIA II

"Bloody"	
Low	
Pro-rated estimate based on entire campaign	347*
High	
Estimated casualties	3,128
Nominal	
LFW Team estimated casualties	2,844**
"Non-Bloody"	
Low	
Estimate based on experience of British forces	158***
High	
Estimated casualties	1,265
Nominal	
LFW Team estimated casualties	1,150**

BASIC SOURCES: *Graham and Bidwell, Tug of War; **Tenth Army War Diary, appendices, and periodic reports; ***Mellor, Casualties and Medical Statistics.



BATTIPAGLIA II

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %D	Armor %D	Arty %D	A/C %D	%D
		T	Lt.	MBT	Pcs						
A	14,730	97	4	93	152	94	300	1.0	?	?	--
D	6,995	58	0	58	80	31	110	0.8	?	?	--

LFW

A/D	Strength					Air Sorties	Battle Casualties							
	Pers (Total)	Armor			Arty Pcs		Pers %	D	Armor %	D	Arty %	D	A/C %	D
		T	Lt.	MBT										
A	16,083	132	67	65	135	?	?	391	1.2	?	0	?	?	?
D	30,174	81	35	46	48	?	?	2,844	4.7	0	?	?	?	?



EBOLI

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	17-18 Sep 43	Salerno	US 45th Inf Div	MG Middleton	2	7.5
D			Ger 26th Pz Div+-	MG Luttwitz		

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	17-18 Sep 43	Salerno	US 45th Inf Div -	MG Middleton	2	8.0
D			Ger 16th Pz Div +	MG Sickenius		

German doctrine specified that reinforcing units be attached under the senior officer already on the field; thus arriving elements of the 26th Panzer Division were attached to the 16th Panzer Division under the command of MG Sickenius. The LFW Team determined that the width of the front was 8 kilometers rather than 7.5.



US ARMY

U.S. STRENGTH: EBOLI

Low

45th Infantry Division plus strength 12,958

High

45th Infantry Division plus strength 15,728

Nominal

LFW Team's estimate	14,150*
Replacements received during battle	243**
RTD	34***
Attachments during battle [Tank Co.]	<u>180****</u>
Total	14,607

BASIC SOURCES: *Fifth Army G-3 Journal and Periodic Reports;
 45th Infantry Division after-action report; *Lada, Medical
 Statistics World War II; ****Fifth Army Operations Order.



II-45

US ARMY

U.S. CASUALTIES: EBOLI

"Bloody"	
Low	
Estimated casualties	175
High	
Estimated casualties	213
Nominal	
LFW Team estimated casualties	194*
"Non-Bloody"	
Low	
Estimated casualties	59
High	
Estimated casualties	73
Nominal	
LFW Team estimated casualties	66**

BASIC SOURCES: *Fifth Army Periodic Reports; ** Lada, Medical Statistics World War II, p.27.



US ARMY

GERMAN STRENGTH: EBOLI

Low	
Estimated strength	21,959
High	
Estimated strength	26,839
Nominal	
Recorded German strength	24,174
Replacements received during battle	225
Attachments/detachments during battle	<u>0</u>
Total	24,399

BASIC SOURCES: Tenth Army War Diary and appendices.



US ARMY

GERMAN CASUALTIES: EBOLI

"Bloody"	
Low	
Estimated casualties	284
High	
Pro-rated estimate based on entire campaign	457*
Nominal	
LFW Team estimated casualties	315**
"Non-Bloody"	
Low	
Estimated casualties	113
High	
Estimated casualties	139
Nominal	
LFW Team estimate based on experience of British forces	126***

BASIC SOURCES: *Graham and Bidwell, Tug of War;
 **Tenth Army War Diary, periodic reports, and appendices;
 ***Mellor, Casualties and Medical Statistics [British
 September 1943 daily NBC rate per thousand troops was
 2.6123333; this figure multiplied by nominal German strength,
 24,174, and 2 battle days provides 126 NBC.]



US ARMY

EBOLI

HERO

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty			Pers %/D	Armor %/D	Arty %/D	A/C %/D	A/C %/D	
		T	Lt. MBT	Pcs								
A	15,576	106	17	89	106	386	1.2	?	--	?	--	
D	6,702	59	0	59	80	120	0.9	?	--	?	--	

LFW

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty Pcs			Pers %/D	Armor %/D	Arty %/D	A/C %/D	A/C %/D	
		T	Lt. MBT									
A	14,150	210	147	63	140	?	?	?	--	1	?	
D	24,399	12	0	12	12	?	?	?	15.6	2	8.3	



INTRODUCTION AND BIBLIOGRAPHY: VOLTURNO

As per contract, the LFW Team reviewed/reassessed the following battles:

Grazzanise, 12-14 Oct 1943
Castel Volturno, 13-15 Oct 1943
Triflisco, 13-14 Oct 1943
Dragoni, 15-17 Oct 1943
Canal I, 17-18 Oct 1943
Monte Grande, 16-17 Oct 1943
Francolise, 20-22 Oct 1943
Monte Rotondo, 8-10 Nov 1943
Monte Maggiore, 2-3 Dec 1943

The basic source for statistical data on the battles of the Volturno Campaign were the official records, of which the Fifth Army Periodic Reports were the most valuable source.

Since there was only minor combat between the end of the Salerno Campaign and the start of the Volturno battles, the starting point for determining the strengths of the three British divisions involved at Salerno and Volturno was the strength after the final Salerno battle, plus any replacements or RTD. In the case of the three American divisions, all were experiencing their first combat action in Italy and thus would have been at or near full strength. Since one British division, the 7th Armoured, was involved in three of the battles, there could be some carry over of strength minus casualties from one battle to the next.

The primary source for "bloody" casualties were the Fifth Army Periodic Reports and for "non-bloody" casualties, Lada or Mellor, as explained in the general introduction and on the appropriate charts.

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Official Records

Fifth Army: After-Action Report, Periodic Reports, Operations Orders, G-1 and G-3 Journals; and Headquarters, Fifth Army, Historical Section, Fifth Army History [9 vols, n.p., n.d.].

II Corps: After-Action Report, Periodic Reports, and G-1 and G-3 Journals.

VI Corps: After-Action Report, Periodic Reports, and

G-1 and G-3 Journals.

3d Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 7th Infantry, 15th Infantry, and 30th Infantry.

34th Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, Division Artillery Journal, and G-1 and G-3 Journals; After-Action Reports, Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 123d Infantry, 130th Infantry, and 136th Infantry.

36th Infantry Division: After-Action Report, Division Artillery After-Action Report, Daily Situation Reports, Division Artillery Daily Situation Reports, and G-1 and G-3 Journals; After-Action Reports, Daily Situation Reports, and S-1 and S-3 Journals and files of the three organic regiments: 141st Infantry, 142d Infantry, and 143d Infantry.

British Records

7th Armoured Division, Operations Report, Public Records Office, London.

46th Infantry Division, Operations Report, Public Records Office, London.

56th Infantry Division, Operations Report, Public Records Office, London.

German Records

OKW KTB [War Diary of the Supreme Command of the Armed Forces], vol. 6, as cited in Salerno sources.

AOK 10, KTB [Tenth Army War Diary] and Anlagen as cited in Salerno sources [Microfilm Collections T-312, rolls 18, 80, and 86; T-78, roll 641; and T-123, roll 80].

XIV Panzer Corps, KTB, Meldungen [Reports] 8 Sep-31 Dec 1943 and 1 Nov-31 Dec 1943 [Microfilm Collection T-314, rolls 1574, 539-541 -- almost unreadable print -- and 542].

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Most useful:

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US ARMY

LFW MANAGEMENT ASSOCIATES, INC. REVIEW

of

CAA TASK 3 REQUIREMENTS

LFW'S INDEPENDENT REVIEW/REASSESSMENT OF NINE ANOMALOUS BATTLES

FROM THE VOLTURNO RIVER CAMPAIGN



II-53

BRITISH STRENGTH: GRAZZANISE

Low

Known organizational strength Br 7th Armd Div (+) minus 1	
Tank Regt.....	10,870

High

Known Organizational strength Br 7th Armd Div (+) minus 1	
Tank Regt.....	12,650

Nominal

Low Grazzanise unit strength	11,756*
Replacements	133**
RTD	183***
Attachments/detachments during battle	<u>0</u>
LFW estimate	12,072

BASIC SOURCES: *September 1943 daily "bloody" and "non-bloody" casualties per 1,000 troops were 2.5077419. Since the 7th Armored Div. was initially committed to Italy on September 15, accumulated casualties based on 12,650 troops, would be 894 by October 12, 1943. [Mellor, Casualties and Medical Statistics, p. 238]. **7th Armored Division pro-rated share of replacements



US ARMY

not involved in mutiny at Salerno [Graham and Bidwell, Tug of War]. **On the basis that 35 percent of the 55 percent of all casualties RTD after 22 days, the daily casualty rate per thousand multiplied by the two percentage figures provides an approximate RTD rate per thousand troops. The daily RTD [.51359 for September and .4827403 for October] multiplied by 12.65 thousand troops and the appropriate number of days provides 183 troops RTD through October 14, 1943. [Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics World War II.]



II-55

US ARMY

BRITISH CASUALTIES: GRAZZANISE

"Bloody"	
Low	
Estimated casualties	7*
High	
Estimated casualties	179
Nominal	
LFW Team estimated casualties	165**
"Non-Bloody"	
Low	
Estimated casualties	95
High	
Estimated casualties	117
Nominal	
Estimate based on MIAs reported to Fifth Army	18
Estimate based on NBCs in <u>Casualties and Medical</u>	
<u>Statistics</u>	<u>88</u>
Total	106

BASIC SOURCES: *The October 1943 monthly rate of "Bloody" casualties per 1,000 British troops was 6.37. Multiplying 6.37 by 11,756 nominal estimate of thousands of troops divided by 31 days provides a daily rate of 2,415,668 casualties. Multiplying the daily rate by 3 battle days equals 7 casualties [Mellor, Casualties and Medical Statistics]. **Fifth Army Periodic Reports.



US ARMY

GERMAN STRENGTH: GRAZZANISE

Low

Estimated German strength 6,586

High

Estimated German strength 8,050

Nominal

Recorded German strength 7,318
 Replacements received during battle 0
 Attachments/detachments during battle 0

Total 7,318

BASIC SOURCES: Tenth Army War Diary and appendices; XIV Panzer Corps War Diary and reports.



US ARMY

GERMAN CASUALTIES: GRAZZANISE

"Bloody"	
Low	
Estimated casualties	81
High	
Estimated casualties	439
Nominal	
LFW Team estimate	90*
"Non-Bloody"	
Low	
Estimate	23
High	
Estimate from experience of British forces	51**
Nominal	
Estimate from German reports	25*

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **The October rate of NBC per thousand [72.62] per month multiplied by strength in thousands [7.318] divided by 31 and multiplied by three battle days. [Mellor, Casualties and Medical Statistics, p. 238.]



GRAZZANISE

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty Pcs	Pers %/D		Armor ?	%/D Arty ?	%/D A/C ?	%/D	
		T	Lt. MBT								
A	14,557	158	3	155	68	370	0.8	?	?	0	--
D	8,068	39	0	39	45	80	0.3	?	?	0	--

LFW

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %/D	Armor ?	%/D Artv ?	%/D A/C ?	%/D
		T	Lt. MBT	Pcs							
A	11,756	123	3	120	102	?			--	--	--
D	7,318	25	0	25	45	?			--	--	--



GRAZZANISE

HERO

		Force		Air Pre-		Terr		Plans		Sup		Mass Log		Forts		Depth	
For.	A/D	Qual	Res	Mob	Sup	Pond.	Wther	Terr	Ldshp	Plans	Sup	Mass	Log	Forts	Depth		
A	N		N	N	N	N	N		N	N	N	x	N		x		N
D																	

LFW

		Force		Air Pre-		Terr		Plans		Sup		Mass Log		Forts		Depth	
For.	A/D	Qual	Res	Mob	Sup	Pond.	Wther	Terr	Ldshp	Plans	Sup	Mass	Log	Forts	Depth		
A	x		x	N	N	x	N		N	N	N	x	N		x		N
D																	

Force quality and availability of reserves both favored the attackers, who also had a preponderance of forces.



GRAZZANISE

HERO

Plan and Maneuver

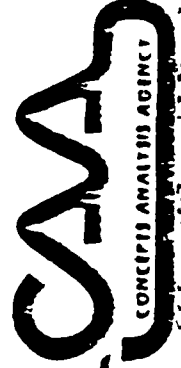
A/D	Main Attack and Scheme of Defense		Secondary Attack		Success	Resolution	
	A	D	A	D		P	WD
	RIVC	D	-	-	x	P	WD

LFW

Plan and Maneuver

A/D	Main Attack and Scheme of Defense		Secondary Attack		Success	Resolution	
	A	D	A	D		P	WD
	FE	D	RIV C (LF)	-	x	P	WD

The principal effort of the 7th Armored Division was to stage a feint to facilitate other crossing operations by pinning down German forces. Crossing the river was a secondary effort, which was executed not on the right flank, but on the left. It was a success, and defending German forces withdrew.



US ARMY

BRITISH STRENGTH: CASTEL VOLTURNO

Low

Known organizational strength Br 46th Div (+) minus Salerno losses [2,697] 17,403

High

Known organizational strength Br 46th Div (+) 20,100*

Nominal

LFW estimate	17,848**
Replacements	0
RTD	0
Attachments/Detachments	<u>26*</u>

Total 17,874

BASIC SOURCES: *46th Div loading table for Salerno landing [Operations Report, 46th Inf Div]; **Division in combat for 21 days in September and 12 days in October at respective "Bloody" and "Non-Bloody" losses of 2,668 and 2,507,7419 provides a cumulative "Bloody" and "Non-Bloody" loss of 1,703. This was calculated as follows: Port of Salerno start of battle strength of 20.1 thousands times 2,668 times 21 subtracted from 20,100 = 18,974 plus RTD through 1 October [207] minus 19,181 [October start strength in thousands] times 2,507,7419 times twelve [577]. The result

US ARMY

[18,604] plus 111 RTDs [.4827403 per thousand per day times 19.181 times twelve] is 18,725. This figure minus the pro-rated 33 percent of the 3,000 British troops captured during the Salerno campaign provides a nominal Castel Volturno start of battle strength of 17,848 when 133 replacements received during the Salerno Campaign are added. [Graham and Bidwell, Tug of War.] ***As 35 percent of the 55 percent of all casualties eventually returned to duty do so in 22 days, the October British RTD rate was .4827403 [35 times 55 times 2.5077419]. This rate times 3 battle days equals 26. [Mellor, Casualties and Medical Statistics.]



BRITISH CASUALTIES: CASTEL VOLTURNO

"Bloody"

Low
Estimate based on Casualties and Medical Statistics 11*

High

Estimated casualties 392

Nominal

Estimated casualties 356**

"Non-Bloody"

Low

Estimated MIAs 29

Estimated NBCs 118
Total 179

High

Estimated MIAs 35

Estimated NBCs 118
Total 147

Nominal

MIAs 32**

NBCs 123***
Total 155

BASIC SOURCES: *October "Bloody" casualties were 6.37 per thousand troops per month. This figure multiplied by 17.848 thousand, divided by 31 days, equals 11. [Mellor, Casualties and Medical Statistics, p. 238]. **Fifth Army Periodic Reports;

***October "Non-Bloody" rate was 2.302258 per thousand British troops. This figure multiplied by 17.87 thousands and then 3 provides 123.



US ARMY

GERMAN STRENGTH: CASTEL VOLTURNO

Low	
Estimated strength	6,586
High	
Estimated strength	8,050
Nominal	
Recorded German strength	7,318
Replacements received during battle	0
Attachments/detachments during battle	<u>0</u>
Total	7,318

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries
and appendices.



II-65

US ARMY

GERMAN CASUALTIES: CASTEL VOLTURNO

"Bloody"	
Low	
Estimated casualties	76
High	
Estimate based on pro-rated entire Volturno Campaign Casualties	439*
Nominal	
Estimated casualties	84**
"Non-Bloody"	
Low	
Estimate based on experience of British forces	51***
High	
Estimated casualties	138
Nominal	
Reported German MIA [103] and NBC [22] reports	125**

BASIC SOURCES: *Graham and Bidwell, Tug of War, pp. 91-92;
 **Tenth Army and XIV Panzer Corps War Diaries and appendices;
 ***October "Non-Bloody" casualty rate was 2,302,258 per thousand British troops per day; multiplying this figure by 7,318 thousands and then 3 provides 55 [Mellor, Casualties and Medical Statistics, p. 238].



II-66

CASTEL VOLTURNO

HERO

A/D	Strength					Air Sorties	Battle Casualties							
	Pers (Total)	Armor			Arty		Pers	%D		Arty	%D	A/C	%D	
		T	Lt	MBT	Pcs			%D	Armor					
A	17,765	51	0	51	199	55	500	1.4	?	--	?	--	--	
D	8,158	39	0	39	45	0	40	0.3	?	--	?	--	--	

LFW

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Arty			Pers		%/D	Armor %/D	Arty %/D	A/C %/D	
		T	Lt.	MBT							
											Pcs
A	17,848	123	3	120	160	?	356	0.7	?	--	--
D	7,318	45	21	24	108	?	84	0.4	?	--	--



CASTEL VOLTURNO

HERO

Plan and Maneuver

A/D	Main Attack and Scheme of Defense		Secondary Attack	Success	Resolution
	RivC	D			
A			E(RF)	X	P
D			-		WD

LFW

Plan and Maneuver

A/D	Main Attack and Scheme of Defense		Secondary Attack	Success	Resolution
	RivC	D			
A			E(LF)	X	P
D			-		WD

The British made their secondary attack not on the right flank but on the left.



US ARMY

U.S. STRENGTH: TRIFLISCO

Low

Known organizational strength US 3d Inf Div (+) [18,476]
minus 5 percent [924] 17,552**

High

Organizational strength US 3d Inf Div (+) 18,476*

Nominal

LFW estimate	18,196
Replacements	0
RTD	26
Attachments/detachments	0
Total	18,222

BASIC SOURCES: *TO&E and VI Corps Periodic Reports and Operations Orders; **LFW Team estimate of rear detachment size of unit first entering combat in theater; ***October daily RTD rate, based on the 22-day average return [35 percent of the 55 percent of all casualties RTD] was .4827403 per thousand. Over the three-day battle period this equals 129. [Mellor, Casualties and Medical Statistics, and Lada, Medical Statistics World War II].



US ARMY

U.S. CASUALTIES: TRIFLISCO

"Bloody"

Low

Estimated casualties 27

High

Estimated casualties 32*

Nominal

Estimated casualties 30**

"Non-Bloody"

Low

Estimated MIAs 4

Estimated NBCs 124***

Total

128

High

Estimated MIAs 5

Estimated NBCs 281

Total

286

Nominal

Reported MIAs 4**

Reported NBCs 255**

Total

259

BASIC SOURCES: *Daily wounded non-effective rate was 1.8 per thousand; multiplying this figure by 18,196 thousands provides 32. [Lada, Medical Statistics World War II]; **Fifth Army Periodic Reports; ***The Mediterranean Theater experienced 828 NBC per thousand troops per year; multiplying 18.196 thousands by 828 and dividing by 365 provides a 41.277501 per division daily battle rate. Multiplying this by the three battle days provides 124 NBC [Lada, Medical Statistics World War II].



II-70

GERMAN STRENGTH: TRIFLISCO

Low

Estimated strength 7,500

High

Estimated strength 9,166

Nominal

Estimate from German records 8,333
 Replacements received during battle 0
 RTD 0
 Attachments/detachments..... 0

Total 8,333

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries
 and appendices.



US ARMY

GERMAN CASUALTIES: TRIFLISCO

"Bloody"	
Low	
Estimated casualties	88
High	
Estimated casualties	108
Nominal	
Reported German KIAs and WIAs	98*
"Non-Bloody"	
Low	
Estimated casualties	194
High	
Estimated casualties	214
Nominal	
LFW Team estimate based on experience of British forces [42]** plus 162 captured by US forces ***	204

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British NBC casualty rate for October 1943 was 2.5077419; this figure multiplied by the nominal German strength of 8.333 thousands provides a daily rate of 20.897013; multiplying this by 2 battle days provides 42 NBC [Mellor, Casualties and Medical Statistics, p. 238]; ***Fifth Army periodic reports.



II-72

TRIFLISCO

HERO

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor			Arty Pcs		Pers %	Armor %/D	Arty %/D	A/C %/D	%D	
		T	Lt.	MBT								
A	18,476	106	17	89	113	33	267	0.7	0	?	--	
D	7,250	22	0	22	59	10	76	0.5	?	?	--	

LFW

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor			Arty Pcs		Pers %	Armor %/D	Arty %/D	A/C %/D	%D	
		T	Lt.	MBT								
A	18,196	56	6	50	113	?	30	0.1	?	0	?	--
D	8,333	54	15	39	84	?	98	0.6	?	?	?	--



CONCEPTS ANALYSIS AGENCY

US ARMY

TRIFLISCO

HERO

A/D	Def Posture	Terrain	Weather	Season	Surprise	Surpriser	Level Surprise	Air Sup
A		FM	DST	FT	Y	X	minor	X
D	PD							

LFW

A/D	Def Posture	Terrain	Weather	Season	Surprise	Surpriser	Level Surprise	Air Sup
A		FM	DST	FT	Y	X	Considerable	X
D	PD							

When five battalions arrive inside the enemy position without the enemy firing a shot, considerable surprise is involved. Most of the 161 captured were asleep.

II-74



TRIFLISCO

HERO

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Init- iative	Vic- tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x	x	2.4	7
D												3

LFW

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Init- iative	Vic- tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x	x	2.4	9
D												1

So easy was the victory that the LFW Team considers the mission accomplishment figure should be even higher for the attackers.

US ARMY

U.S. STRENGTH: DRAGONI

Low

Estimated organizational strength US 34th Inf Div (+) and
504th Parachute Inf Regt (+) minus 5 percent 16,628*

High

Estimated organizational strength US 34th Inf Div (+) and
504th Parachute Inf Regt (+) 17,503*

Nominal

LFW estimate	17,066
Replacements received during battle	0
RTD	25**
Attachments/detachments	<u>0</u>
Total	17,091

BASIC SOURCES: *New to combat in Italy, the 34th Div was probably at or near TO&E strength; attachments from II Corps Operations Orders. The low figure reflects an estimated rear detachment strength for an incoming division. **The daily 1943 RTD rate, determined by 35 percent of 55 percent eventually returned to duty, was .4827403 per thousand. This times 34th Div (+) strength of 17.066 thousands times 3 battle days equals 25. [Lada, Medical Statistics World War II, and Mellor, Casualties and Medical Statistics.]



US ARMY

U.S. CASUALTIES: DRAGONI

"Bloody"	
Low	
Estimated casualties	5*
High	
Estimated casualties	417
Nominal	
Reported casualties	379**
"Non-Bloody"	
Low	
MIAs	142**
NBCs	124***
Total	266
High	
Estimated casualties	1,679
Nominal	
MIAs	149**
NBCs	1,377**
Total	<u>1,526</u>

BASIC SOURCES: *Daily wounded non-effective rate was .3104109 per thousand. Multiplying this figure by 17.066 thousands provides 5. [Lada, Medical Statistics World War II, p. 8]; **VI Corps and Fifth Army Periodic Reports, [high NBC rate attributed to malaria]; ***The Mediterranean Theater



US ARMY

experienced 828 NBC per thousand troops per year. Multiplying strength of 17,066 thousands by 828 and dividing the result by 365, provides a 41.271501 per division battle day rate. This is not applicable to any U.S. division, only this one for this battle. Multiplying this by 3 days provides 124 NBC. [Lada, Medical Statistics World War II, p. 27].



II-78

GERMAN STRENGTH: DRAGONI

Low

Estimated strength 9,005

High

Estimated strength 11,006

Nominal

Recorded German strength 10,005
 Replacements received during battle 0
 RTD 0
 Attachments/detachments during battle 0

Total 10,005

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries
 and appendices.



US ARMY

GERMAN CASUALTIES: DRAGONI

Estimated casualties	"Bloody" Low	46
Estimated casualties	High	56
LFW Team estimate	Nominal	51*
Estimate	"Non-Bloody" Low	50
Estimate from experience of British forces	High	70**
German reported MIAs	Nominal	32*
German reported NBCs		23*
Total		<u>55</u>

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British daily NBC casualty rate per thousand in October 1943 was 2.3477419; this figure multiplied by nominal German strength of 10.005 thousands provides a force daily rate of 23; multiplying this by 3 battle days provides 70 NBC. [Mellor, Casualties and Medical Statistics, p. 238].

II-80.



DRAGONI

HERO

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor			Arty Pcs		Pers %/D	Armor %/D	Arty %/D	A/C %/D	A/C %/D	
		T	Lt.	MBT								
A	17,034	106	17	89	101	54	65	0.1	?	--	--	
D	5,152	55	0	55	51	116	103	0.7	?	--	--	

LFW

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty Pcs			Pers %/D	Armor %/D	Arty %/D	A/C %/D	A/C %/D	
		T	Lt.	MBT	Pcs							
A	17,066	56	6	50	101	?	379	0.7	?	--	--	
D	10,005	55	0	55	51	?	51	0.2	3	1.8	?	

DRAGONI

HERO

A/D	CE	Leader-ship	Trng Exp.	Morale	Log	Momen-tum	In-tell	Tech-nology	Init-iative	Vic-tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x		1.9	5
D										x		5

LFW

A/D	CE	Leader-ship	Trng Exp.	Morale	Log	Momen-tum	In-tell	Tech-nology	Init-iative	Vic-tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x	x	1.9	7
D												3

Since the U.S. forces are credited with victory and success, the LFW Team considers that their mission accomplishment rating should be higher.



DRAGONI

HERO

Plan and Maneuver

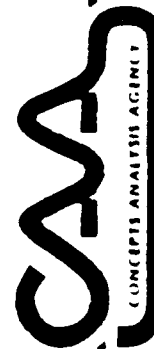
A/D	Main Attack and Scheme of Defense		Secondary Attack	Success	Resolution
	A	D			
A	F		-		P
D		D	-	X	WD

LFW

Plan and Maneuver

A/D	Main Attack and Scheme of Defense		Secondary Attack	Success	Resolution
	A	D			
A	F		-	X	P
D		D	-		WD

U.S. forces advanced 1.9 kilometers, took the objective, and forced the Germans to withdraw; the LFW Team considers that success clearly belongs to the victors.



US ARMY

BRITISH STRENGTH: CANAL I

Low

7th Armd Div low strength at preceding battle of Grazzanise
[10,870] minus high Grazzanise casualties [296] 10,574

High

7th Armd Div high strength at preceding battle of Grazzanise
[12,650] minus low Grazzanise casualties [102] 12,548

Nominal

Nominal Grazzanise end of battle strength [12,072] minus nominal Grazzanise "bloody" and "non-bloody" casualties [253] plus RTD [12]	11,831
Replacements received during battle	0
RTD	11*
Attachments/detachments during battle	0
Total	11,842

BASIC SOURCES: Fifth Army Periodic Reports and Operations Orders;
*On the basis that 35 percent of the 55 percent of all casualties
RTD after 22 days, the daily casualty rate per thousand, multiplied
by the two percentage figures provides an approximate daily RTD rate
per thousand troops of .462385 for October 1943. Multiplied by the
nominal battle strength in thousands of 11.842 and 2 battle days,
this provides 11 casualties RTD during the battle. [Mellor, Casualties
and Medical Statistics, and Lada, Medical Statistics World War II].



BRITISH CASUALTIES: CANAL I

"Bloody"	
Low	
Estimated casualties	50
High	
Estimate based on Casualties and Medical Statistics	74
Nominal	
Reported casualties	67*
"Non-Bloody"	
Low	
Estimate	52
High	
Estimate.....	64
Nominal	
Reported MIAs.....	3*
NBCs	55**
Total	58

BASIC SOURCES: *Fifth Army Periodic Reports; **A daily NBC rate for October 1943 of 2.302258 per thousand multiplied by a nominal strength of 11.842 thousands times 2 battle days provides 55 NBC. [Mellor, Casualties and Medical Statistics, p. 238].



US ARMY

GERMAN STRENGTH: CANAL I

Low	
Estimate	13,172
High	
Estimate	16,100
Nominal	
Recorded German strength	14,636
Replacements received during battle	0
RTD	0
Attachments/detachments during battle [1 Italian Assault Gun Co. on 18 Oct]	<u>200</u>
Total	14,836

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



US ARMY

GERMAN CASUALTIES: CANAL I

"Bloody"	
Low	
Estimated casualties	53
High	
Estimated casualties	65
Nominal	
Reported KIA and WIA	59*
"Non-Bloody"	
Low	
Estimate	29
High	
Estimated NBC [73] from experience of British forces, plus nominal MIA [6]	79
Nominal	
Reported MIA [6] and NBC [26]	32*

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **An October 1943 daily rate per thousand of 2.5077419 NBC multiplied by normal battle strength of 14.636 thousands, times 2 battle days provides 67 NBC** [Mellor, Casualties and Medical Statistics, p. 238].



CANAL I

HERO

A/D	Strength					Air Sorties	Battle Casualties						
	Pers (Total)	Armor			Arty Pcs		Pers %/D	Armor			Arty %/D	%/D A/C	%/D
		T	Lt.	MBT				%/D	%/D	%/D			
A	14,600	158	3	155	68	0	125	0.4	?	?	?	?	?
D	8,138	40	0	40	45	0	45	0.3	?	?	?	?	?

LFW

A/D	Strength					Air Sorties	Battle Casualties						
	Pers (Total)	Armor		Arty			Pers %/D	Armor		Arty		%/D A/C	%/D
		T	Lt.	MBT	Pcs			%/D	%/D	%/D	%/D		
A	11,813	150	0	150	102	?							
D	14,636	45	21	24	108	?							--



CANAL I

HERO

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Initi- ative	Vic- tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x	x	0.5	5
D												5

LFW

A/D	CE	Leader- ship	Trng Exp.	Morale	Log	Momen- tum	In- tell	Tech- nology	Initi- ative	Vic- tor	Adv	Mis Ac
A	C	C	C	C	N	N	N	C	x	x	0.5	6
D												4

The LFW Team considers that the victors deserve a higher mission accomplishment rating than the defeated defenders.

MONTE GRANDE

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	16-17 Oct 43	Volturmo	Br 56th Inf Div elm Gr Herman Goering Pz Div (1/2)	MG Templar MG Schmalz	2	9.0
D						

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	16-17 Oct 43	Volturmo	Br 56th Inf Div Gr Herman Goering Pz Div (1/2)	MG Templar MG Conrad	2	9.0
D						

The entire 56th Infantry Division(+) was involved.



US ARMY

BRITISH STRENGTH: MONTE GRANDE

Low

56th Div Salerno start of campaign strength [21,425] minus
high est. casualties [2,147] plus low RTD [339] 19,607

High

56th Div Salerno start of campaign strength [21,425] minus
low est. casualties [1,765] plus high RTD [415] 20,075

Nominal

56th Div start of campaign Salerno strength [21,425] minus
nominal est. casualties [1,961] plus nominal RTD [377].. 19,841
Replacements received during battle 0
RTD 19
Attachments/detachments during battle 0
Total 19,860

BASIC SOURCES: Fifth Army Periodic Reports; On the basis of September 21 and October 15, 1943 days prior to the battle and a 21.425 thousands September 9 start of battle strength, the September daily total casualty rate per thousand was 2.668 September casualties, based on September 9 strength thus was 1,200. Thus, the October strength was approximately 20.225 thousands, and the October daily casualty rate was 2.5077418, and October total



US ARMY

battle casualties were approximately 761. [Mellor, Casualties and Battle Statistics, p. 238]. The Daily RTD rate in September was .51359 per thousand troops and October was .4827403 per thousand. This approximate rate is based on 35 percent of the 55 percent of casualties eventually RTD. These RTDs average 22 non-duty days. [Mellor, Casualties and Battle Statistics, and Lada, Medical Statistics World War II]. Low and high casualties respectively are 10 percent lower or higher than nominal 1,961.



II-92

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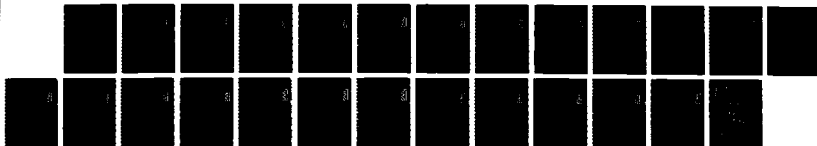
INDEPENDENT REVIEW/REASSESSMENT OF ANOMALOUS DATA
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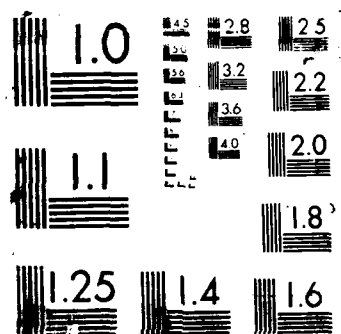
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UNCLASSIFIED

F/O 15/6

NL





US ARMY

BRITISH CASUALTIES: MONTE GRANDE

"Bloody"	
Low	
Estimated casualties	8*
High	
Estimated casualties	102
Nominal	
Reported casualties	93**
"Non-Bloody"	
Low	
Estimated MIAs	242
Estimated NBCs	82
Total	<u>324</u>
High	
Estimated MIAs	296
Estimated NBCs	100
Total	<u>396</u>
Nominal	
Reported MIAs	269
Reported NBCs	91***
Total	<u>360</u>

BASIC SOURCES: *British October 1943 "bloody" casualties were 6.37 per thousand troops. The start strength of 19.841 thousands multiplied by 6.37, divided by 31 days provides a daily "bloody"



US ARMY

casualty rate of 4.0770054; thus the "bloody" casualty rate for the 2-day battle was 8. [Mellor, Casualties and Medical Statistics, p. 238]. **Fifth Army Periodic Reports; **British October 1943 "non-bloody" casualty rate was 2.302258 per thousand; multiplied by nominal strength of 19.841 thousands, this provides 91 NBC for the 2-day battle. [Mellor, Casualties and Medical Statistics, p. 238].



II-94

US ARMY

GERMAN STRENGTH: MONTE GRANDE

Low

Estimated strength 7,412

High

Estimated strength 9,059

Nominal

Reported German strength	8,235
Replacements received during battle	0
RTD	0
Attachments/detachments during battle	<u>0</u>

Total 8,235

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries
and appendices.

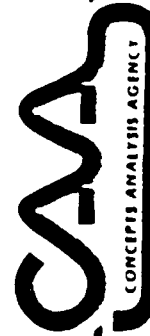


US ARMY

GERMAN CASUALTIES: MONTE GRANDE

"Bloody"	
Low	
Estimated casualties	54
High	
Estimated casualties	66
Nominal	
Reported by German forces	60*
"Non-Bloody"	
Low	
Estimated	40
High	
Estimate	48
Nominal	
Estimated NBCs from experience of British forces	38**
Estimated MIAs	6***
Total	44

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British October 1943 daily "non-bloody" loss per thousand was 2.302258. Multiplied by strength of 8.235 thousands and 2 days, this provides 38 NBC [Mellor, Casualties and Medical Statistics, P. 238]; ***One day of German records for the battle is missing; the other day shows 3 MIA; the LFW Team thus doubled the figure to 6.



MONTE GRANDE

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %/D	Armor %/D	Arty %/D	A/C %/D	%/D
		T	Lt. MBT	Pcs	Pcs						
A	16,400	73	1	72	112	48	200	0.6	?	--	--
D	7,239	22	0	22	49	0	66	0.5	?	--	--

LFW

A/D	Strength					Air Sorties	Battle Casualties					
	Pers (Total)	Armor		Arty Pcs			Pers %/D	Armor %/D	Arty %/D	A/C %/D	%D	
		T	Lt. MBT									
A	19,841	43	0	43	113	93	0.2	2	2.3	0	--	--
D	8,235	49	9	40	84	60	0.4	3	3.1	?	?	?



US ARMY

BRITISH STRENGTH: FRANCOLISE

Low

7th Br Armd Div Canal I preceding battle low strength
[11,577] minus high est. casualties ["bloody" 74, "non-
bloody" 68] 11,335

High

7th Br Armd Div Canal I preceding battle [12,643] minus low
est. "bloody" [50] and "non-bloody" [56] casualties..... 12,537

Nominal

7th Br Armd Div Canal I preceding battle nominal strength
[11,813] plus RTD [11] minus nominal casualties ["bloody"
67, "non-bloody" 68] 11,695
Replacements received during battle 0
RTD 17*
Attachments/detachments during battle 0
Total 11,712

BASIC SOURCES: Fifth Army Periodic Reports; *Daily October
1943 RTD rate per thousand [35 percent RTD in 22 days of 55
percent eventually returned to duty] was .4827403. This
figure multiplied by nominal strength [11.695 thousands] and
three days provides 17 RTD. [Lada, Medical Statistics World
War II, and Mellor, Casualties and Medical Statistics.]



US ARMY

BRITISH CASUALTIES: FRANCOLISE

"Bloody"	
Low	
Estimated casualties	76
High	
Estimated casualties	92
Nominal	
Reported KIAs and WIAs	84*
"Non-Bloody"	
Low	
Estimate	100
High	
Estimate	122
Nominal	
Reported MIAs	30*
NBCs	81**
Total	111

BASIC SOURCES: *Fifth Army Periodic Reports; **October 1943 daily NBC rate per thousand was 2.302258. This figure multiplied by strength of 11.695 thousands and 3 battle days provides 81 NBCs [Mellor, Casualties and Medical Statistics, p. 238].



US ARMY

GERMAN STRENGTH: FRANCOLISE

Low

Estimate 1/2 Canal I preceding battle low strength [6,586] minus 1/2 Canal I high casualties ["bloody" 33, "non- bloody" 40]	6,513
--	-------

High

Estimate 1/2 Canal I preceding battle high strength [8,050] minus 1/2 Canal I low casualties ["bloody" 27, "non- bloody" 15]	8,008
--	-------

Nominal

Estimate 1/2 Canal I preceding battle nominal strength [7,318] minus 1/2 Canal I nominal casualties ["bloody 30, "non-bloody" 16]	7,272
Replacements received during battle	0
RTD	0
Attachments/detachments during battle	<u>0</u>
Total	7,272

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices. Only approximately one-half of the German forces participating in the preceding Canal I battle participated in the Francolise battle.



US ARMY

GERMAN CASUALTIES: FRANCOLISE

"Bloody"	
Low	
Estimated casualties	40
High	
Estimated casualties	48
Nominal	
Reported KIAs and WIAs	44*
"Non-Bloody"	
Low	
Estimate	48
High	
Estimate	62
Nominal	
NBCs from experience of British forces	50**
Reported MIAs	6*
Total	56

BASIC SOURCES: *Tenth Army and XIV Corps War Diaries and appendices; **October 1943 daily British NBC rate was 2.302258; this figure multiplied by nominal strength of 7.272 thousands and 3 battle days provides 50 NBC [Mellor, Casualties and Medical Statistics, p. 238].



II-101

FRANCOLISE

HERO

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %/D	Armor %/D	Arty %/D	A/C %/D	
		T	Lt. MBT	Pcs							
A	14,000	158	3	155	68	0	?	?	0	--	
D	8,008	39	0	39	45	0	?	?	0	--	

LFW

A/D	Strength					Air Sorties	Battle Casualties				
	Pers (Total)	Armor		Arty			Pers %/D	Armor %/D	Arty %/D	A/C %/D	A/C %/D
		T	Lt. MBT	Pcs							
A	11,695	153	0	153	112	?			?	--	--
D	7,272	23	11	12	42	?			?	--	--



MONTE ROTONDO

HERO

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	8-10 Nov 43	Volturno	US 3d Inf Div (-)	MG Truscott	3	4.5
D			Gr 3d Pz Gr Div ($\frac{1}{2}$)	MG Baade		

LFW

A/D	Dates	Campaign	Forces	Commanders	Days	Width of Front (Km)
A	8-10 Nov 43	Volturno	US 3d Inf Div	MG Truscott	3	4.5
D			Gr 3d Pz Gr Div ($\frac{1}{2}$)	MG Baade		

The entire 3d U.S. Infantry Division was involved.



US ARMY

U.S. STRENGTH: MONTE ROTONDO

Low

3d Div low Triflisco preceding battle strength [17,552]
minus high casualties ["bloody" 32, "non-bloody" 285] 17,235

High

3d US Inf Div high Triflisco preceding battle strength
[18,476] minus low casualties ["bloody" 27, "non-bloody"
127] 18,322

Nominal

3d Div nominal Triflisco preceding battle strength [18,321]
minus nominal casualties ["bloody" 30, "non-bloody" 259] 18,032
Replacements received during battle 0
RTD 26
Attachments/detachments during battle 0
Total 18,048

BASIC SOURCES: The approximate October daily RTD rate, based on the 22-day 35 percent of the eventually 55 percent RTD, was .4827403 per thousand. Multiplying this figure by the nominal battle strength of 18,052 thousands and 3 days of battle produces 26 RTD. (Lada, Medical Statistics World War II, and Mellor, Casualties and Battle Statistics.)

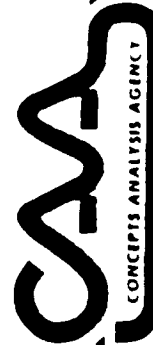


II-104

U.S. CASUALTIES: MONTE ROTONDO

"Bloody"	
Low	
Estimate	728
High	
Estimate	890
Nominal	
Reported KIAs and WIAs	809*
"Non-Bloody"	
Low	
MIAs	66
NBCs	111
Total	177
High	
MIAs	80
NBCs	135
Total	215
Nominal	
Reported MIAs	73
Estimated NBCs	123**
Total	196

BASIC SOURCES: *3d Infantry Division Situation Reports; ** The Mediterranean Theater experienced 828 NBC per thousand troops per year. Multiplying this figure by the strength of 18.052 thousands and dividing the result by 365 provides a daily rate, and multiplying the result by 3 battle days results in 123 NBCs. [Lada, Medical Statistics World War II, p. 27].



US ARMY

GERMAN STRENGTH: MONTE ROTONDO

Low

Estimate 16,318

High

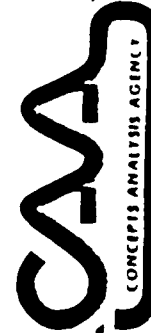
Estimate 19,944

Nominal

Recorded German start strength 18,131
 Replacements received during battle 0
 RTD 0
 Attachments/detachments during battle 0

Total 18,131

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices. German start strength includes 5,000 attached troops from 26th Panzer Division.



II-106

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

US ARMY

GERMAN CASUALTIES: MONTE ROTONDO

| "Bloody" | |
|---|-----|
| Low | |
| Estimated casualties | 129 |
| High | |
| Estimated casualties | 157 |
| Nominal | |
| Reported KIAs and WIAs | 143 |
| "Non-Bloody" | |
| Low | |
| Estimate | 163 |
| High | |
| Estimate | 199 |
| Nominal | |
| Reported MIAs [124] and NBCs [57] | 181 |

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries and appendices.



US ARMY

MONTE ROTONDO

HERO

| A/D | Strength | | | | | Air
Sorties | Battle
Casualties | | | | |
|-----|-----------------|-------|---------|------|-----|----------------|----------------------|--------------|-------------|------------|------------|
| | Pers
(Total) | Armor | | Arty | | | Pers
%/D | Armor
%/D | Arty
%/D | A/C
%/D | A/C
%/D |
| | | T | Lt. MBT | Pcs | Pcs | | | | | | |
| A | 16,350 | 106 | 17 | 89 | 106 | 165 | 0.3 | ? | 0 | ? | -- |
| D | 7,942 | 52* | 0* | 42* | 53 | 118 | 0.5 | ? | ? | ? | -- |

LFW

| A/D | Strength | | | | | Air
Sorties | Battle
Casualties | | | | | |
|-----|-----------------|-------|---------|------|-----|----------------|----------------------|--------------|-------------|------------|------------|--|
| | Pers
(Total) | Armor | | Arty | | | Pers
%/D | Armor
%/D | Arty
%/D | A/C
%/D | A/C
%/D | |
| | | T | Lt. MBT | Pcs | | | | | | | | |
| | | | | | | | | | | | | |
| A | 18,014 | 56 | 6 | 50 | 106 | 1.5 | 1 | 0.6 | 0 | -- | -- | |
| D | 18,032 | 66 | 66 | 0 | 50 | 0.3 | ? | ? | ? | -- | -- | |

*Original HERO report apparently should read 10 light tanks.



II-108

MONTE ROTONDO

HERO

| A/D | CE | Leader-
ship | Trng
Exp. | Morale | Log | Momen-
tum | In-
tell | Tech-
nology | Initi-
ative | Vlc-
tor | Adv | Mis
Ac |
|-----|----|-----------------|--------------|--------|-----|---------------|-------------|-----------------|-----------------|-------------|-----|-----------|
| A | | C | | C | O | N | N | C | x | x | 0.3 | 5 |
| D | x | | x | | | | | | | | | 5 |

LFW

| A/D | CE | Leader-
ship | Trng
Exp. | Morale | Log | Momen-
tum | In-
tell | Tech-
nology | Initi-
ative | Vlc-
tor | Adv | Mis
Ac |
|-----|----|-----------------|--------------|--------|-----|---------------|-------------|-----------------|-----------------|-------------|-----|-----------|
| A | | C | | C | C | N | N | C | x | x | 0.3 | 6 |
| D | x | | x | | | | | | | | | 4 |

The LFW Team changed the mission accomplished rating to accommodate the victors.

MONTE ROTONDO

HERO

| Plan and Maneuver | | | |
|-------------------|-----------------------------------|------------------|--------------------|
| A/D | Main Attack and Scheme of Defense | Secondary Attack | Success Resolution |
| A | F, E (LF) | F | x |
| D | DO | - | x |
| | | | P, S |

LFW

| Plan and Maneuver | | | |
|-------------------|-----------------------------------|------------------|--------------------|
| A/D | Main Attack and Scheme of Defense | Secondary Attack | Success Resolution |
| A | F, E (LF) | F | x |
| D | DO | - | P |
| | | | WD |

Since U.S. forces were the victor, the LFW Team has deleted success from the defender.



MONTE MAGGIORE

HERO

| A/D | Dates | Campaign | Forces | Commanders | Days | Width of Front (Km) |
|--------|------------|----------|---|----------------------|------|---------------------|
| A
D | 2-3 Dec 43 | Volturno | US 36th Inf Div (-)
Gr 16 Pz Gr Div(1/4) | MG Walker
MG Rodt | 2 | 1.0 |

LFW

| A/D | Dates | Campaign | Forces | Commanders | Days | Width of Front (Km) |
|--------|------------|----------|-------------------------------------|----------------------|------|---------------------|
| A
D | 2-3 Dec 43 | Volturno | US 142d RCT
Gr 16 Pz Gr Div(1/4) | MG Walker
MG Rodt | 2 | 1.0 |

The U.S. forces were not the 36th Inf Div (-) but the 142d RCT of that division.



II-111

US ARMY

U.S. STRENGTH: MONTE MAGGIORE

| Low | |
|--|-------|
| 142d RCT minus 120-man rear detachment | 5,431 |
| High | |
| 142d RCT strength | 5,551 |
| Nominal | |
| LFW Team estimate | 5,491 |
| Replacements during battle | 0 |
| RTD | 0 |
| Attachments/detachments during battle | 0 |
| Total | 5,491 |

BASIC SOURCES: TO&E strength; 36th Division after-action report and operations orders.



II-112

US ARMY

U.S. CASUALTIES: MONTE MAGGIORE

| | |
|------------------------------|------|
| "Bloody" | |
| Low | |
| Estimated casualties | 173 |
| High | |
| Estimated casualties | 211 |
| Nominal | |
| Reported KIAs and WIAS | 192 |
| "Non-Bloody" | |
| Low | |
| MIAs | 52 |
| Estimated NBCs | 23 |
| Total | 75 |
| High | |
| Estimated MIAs | 64 |
| Estimated NBCs | 28 |
| Total | 92 |
| Nominal | |
| Reported MIAs | 58* |
| NBCs | 25** |
| Total | 83 |

BASIC SOURCES: *Fifth Army Periodic Reports; **The Mediteranean Theater had a yearly NBC rate per thousand of 828. This figure multiplied by 5.491 thousands, divided by 365 days, provides a daily force NBC rate of 12.456295. Multiplying that figure by 2 battle days provides 25 NBC. [Lada, Medical Statistics World War II].



US ARMY

GERMAN STRENGTH: MONTE MAGGIORE

Low

Estimate 11,705

High

Estimate 14,306

Nominal

Recorded German strength 13,005
 Replacements received during battle 0
 RTD 0
 Attachments/detachments during battle 0

Total 13,005

BASIC SOURCES: Tenth Army and XIV Panzer Corps War Diaries
 and appendices.



II-114

US ARMY

GERMAN CASUALTIES: MONTE MAGGIORE

"Bloody"

Low

Estimate 32

High

Estimate 39

Nominal

Reported KIAs [7] and WIAs [28] 35*

"Non-Bloody"

Low

Estimate 18

High

Estimate from experience of British forces 43**

Nominal

LFW Team estimate based on NBCs in German reports 20*

BASIC SOURCES: *Tenth Army and XIV Panzer Corps War Diaries and appendices; **British December 1943 daily NBC rate per thousand was 1.6567741; this figure multiplied by the battle strength [13.005 thousands] and the 2-day battle, provides 43 NBC. [Mellor, Casualties and Battle Statistics, p. 238].



MONTE MAGGIORE

HERO

| A/D | Strength | | | | Air
Sorties | Battle Casualties | | | | | |
|-----|-----------------|-------|---------|------|----------------|-------------------|--------------|-------------|------------|----|-----|
| | Pers
(Total) | Armor | | Arty | | Pers
%/D | Armor
%/D | Arty
%/D | A/C
%/D | %D | |
| | | T | Lt. MBT | Pcs | | | | | | | Pcs |
| A | 5,551 | 0 | 0 | 152 | 221 | 80 | 0.7 | 0 | ? | ? | -- |
| D | 3,288 | 12 | 0 | 34 | 0 | 20 | 0.3 | ? | ? | 0 | -- |

LFW

| A/D | Strength | | | | Air
Sorties | Battle Casualties | | | | | |
|-----|-----------------|-------|---------|-------------|----------------|-------------------|--------------|-------------|------------|----|----|
| | Pers
(Total) | Armor | | Arty
Pcs | | Pers
%/D | Armor
%/D | Arty
%/D | A/C
%/D | %D | |
| | | T | Lt. MBT | | | | | | | | |
| A | 5,491 | 0 | 0 | 152 | ? | 192 | 1.7 | 0 | ? | ? | -- |
| D | 13,005 | 68 | 43 | 74 | ? | 35 | 0.1 | ? | ? | ? | -- |



II-116

END

DATE

FILMED

9-88

DTIC